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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/972,628	10/09/2001	Chandu R. Vanjani		4320

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EXAMINER

NGUYEN, TRAN N

ART UNIT PAPER NUMBER

2834

DATE MAILED: 02/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/972,628

Applicant(s)

VANJANI, CHANDU R.

Examiner

Tran N. Nguyen

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: Page 12 of the specification contains partial recitation of claim 1, while claim 1 is completely written in the application's claim section (started on page 13). The applicant is requested to delete claim 1's recitation part on page 12 of the specification.

In the spec, p. 11, lines 2-3, the reference number (79) as in "*venting holes (79)*" is incorrect, ref number (79) is assigned to the flat base, while ref number (81) refers to the venting holes.

The disclosure is objected to because of the following: there is no disclosure to support the claimed language of the casing, which forms an internal compartment with rotor mounted therein, having a series of venting holes, as in claim 10.

Appropriate correction is required.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, *the casing* (which forms an internal compartment) *having a series of venting holes*, as in claim 10, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Figure 2-3 of the drawings show the rotor cover's flat base (79) has a plurality of venting holes (81), but none of the drawings show the casing having venting holes.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 10-15 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 10 recites “a casing having an internal compartment; Said casing includes a series of venting holes, said venting holes to provide an escape for generated heat from the stator which will be conducted through the casing into ambient.

The specification does not provide any disclosure that the casing (which forms an internal compartment) ***having a series of venting holes***, so that venting holes to provide an escape for generated heat from the stator, which will be conducted through the casing into ambient.

1. **Claims 1-15** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1-15, the term “***which***” in the recitation does not clearly set reference for the intended referred subject matter. The term “which” should be replace with a clearly-established-antecedent-basis subject matter for clarification.

In claim 1, “said outer cover” lacks antecedent basis.

In claim 2, “said casing” lacks antecedent basis.

In claim 4, “said fins being continuous” is indefinite because it is unclear that the fins are continuous in circumferential arrangement, i.e., surrounding the casing is one fin is adjacent to

the another fin in a complete continuous circumferential arrangement thereof, or the respective fins, each of which, having a continuous axial or radial structure.

In claims 5-15, all established antecedent basis subject matters should be clearly referred, among them, for example: claim 5 recites “an external enclosing casing” , however, claims 6-7, merely refer to the subject matter as “said casing”. This is not clear antecedent basis. Therefore, claims 6-7, or any other claims that depend from claim 5, should refer to this subject matter as “said external enclosing casing”.

The applicant is strongly suggested to review the recitations of the claims and appropriately correct all the antecedent basis issue for claimed language clarification.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1, 5-6, and 9**, as understood, are rejected under 35 U.S.C. 102(b) as being fully anticipated by **Yamaguchi et al (US 6107708)**.

Yamaguchi discloses a heat dissipative brushless motor (fig 1) comprising:

An external enclosing casing assembly (17, 19) having an internal compartment;

A hub (1) having a center through opening;

An annular seat sink (33) having an annular ledge (no number) with a controller circuit board (12) including a power transistor (32) being mounted on the annular ledge of the heat sink and the heat sink (33) is attached to the hub (1) (fig 1);

A stator being fixedly mounted on the hub, via center piece (3) and screw (29), wherein stator including stator core (4) and winding coils (4);

A rotor (6) mounted about the stator and within the internal compartment; the rotor being secured to a shaft (9), wherein the shaft is rotationally mounted within the center through

Art Unit: 2834

opening of the hub (1), via the bearing and the center piece, the rotor including a cover (7) surrounding the stator coil, wherein the cover is provided with a plurality of venting holes (30) to circulate the heat from the wire coils and the controller through the rotor cover into ambient.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 2-4 and 7**, as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi, as applied in the rejection of the base claim, in view of Pinkerton (US 6118202).

Regarding claims 2, 4 and 7, Yamaguchi discloses the claimed invention, except for the added limitations of the casing having exteriorly mounted heat-conducting fins.

Pinkerton, however, teaches a dynamoelectric machine having a plurality of heat conducting fins (126) arranged exteriorly on the casing (106) of the machine for serving as heat exchanging element to conducting heat in the machine to the ambient air.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the motor by embodying the motor's casing with a series of exteriorly mounted heat conducting fins, as taught by Pinkerton. Doing so would enable more generated heat within the motor to escape into ambient air, results in preventing any potential damages from thermal heat therein.

Regarding claim 3, which recites the hub is a cylindrical shape. Those skilled in the art would realize that size and shape of a hub in the motor depends on the overall size and configuration of the motor.

Art Unit: 2834

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the motor by embodying the motor's hub to be cylindrical because a change in size or shape is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, **105 USPQ 237 (CCPA 1955)** (emphasis added).

4. **Claims 1, 3, 5-6 and 8-9**, as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Vanjani (US 6104112) in view of Yamaguchi et al (US 5610456).

Vanjani substantially discloses the claimed invention, except for limitations of the rotor cover having a series of venting holes to provide an escape for generated heat from the wire coils and the controller to be conducted through the outer cover into ambient.

Yamaguchi, however, teaches a brushless motor having a rotor having a rotor having a cover and a series of venting holes (30) to provide escape for heat from the internal chamber of the motor to the external enclosure thereof into ambient.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the motor by embodying the rotor with a plurality of venting holes, as taught by Yamaguchi. Doing so would enable the generated heat to ventilate from the motor internal chamber to the external enclosure into ambient resulting in reducing potential damage due to generated thermal heat thereof.

5. **Claims 2-4 and 7**, as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Vanjani and Yamaguchi, as applied in the rejection of the base claims, in view of Pinkerton (US 6118202).

The combination of Vanjani and Yamaguchi refs discloses the claimed invention, except for the added limitations of the casing having exteriorly mounted heat-conducting fins.

Pinkerton, however, teaches a dynamoelectric machine having a plurality of heat conducting fins (126) arranged exteriorly on the casing (106) of the machine for serving as heat exchanging element to conducting heat in the machine to the ambient air.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the motor by embodying the motor's casing with a series of exteriorly mounted heat conducting fins, as taught by Pinkerton. Doing so would enable more generated heat within the motor to escape into ambient air, results in preventing any potential damages from thermal heat therein.

6. **Claims 10-13**, as understood, are rejected under 35 U.S.C. 103(a) as being -unpatentable over Vanjani (US 6104112) in view of Forbes et al (US 4883982).

Vanjani substantially discloses the claimed invention, except for limitations of the casing, which forms internal compartment for accommodating the rotor within the internal compartment, wherein the casing having a series of venting holes to provide an escape for generated heat from the stator to be conducted through the outer cover into ambient.

Forbes, however, teaches a brushless motor having a casing (208), which forms internal compartment for accommodating the rotor within the internal compartment, wherein the casing having a series of venting holes (225, 227, 229) to provide an escape for generated heat from the stator to be conducted through the casing into ambient.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the motor by embodying the rotor with a plurality of venting holes, as taught by Forbes. Doing so would enable the generated heat to ventilate from the motor internal chamber through the casing into ambient resulting in reducing potential damage due to generated thermal heat thereof.

7. **Claims 14-15**, as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Vanjani and Forbes, as applied in the rejection of the base claims, in view of Pinkerton (US 6118202).

The combination of Vanjani and Forbes refs discloses the claimed invention, except for the added limitations of the casing having exteriorly mounted heat-conducting fins.

Art Unit: 2834

Pinkerton, however, teaches a dynamoelectric machine having a plurality of heat conducting fins (126) arranged exteriorly on the casing (106) of the machine for serving as heat exchanging element to conducting heat in the machine to the ambient air.

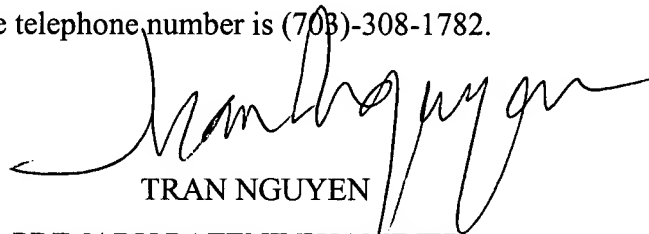
Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the motor by embodying the motor's casing with a series of exteriorly mounted heat conducting fins, as taught by Pinkerton. Doing so would enable more generated heat within the motor to escape into ambient air, results in preventing any potential damages from thermal heat therein.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran N Nguyen whose telephone number is (703) 308-1639. The examiner can normally be reached on M-F 6:00AM-2:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703)-308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3431 for regular communications and (703)-395-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-1782.



TRAN NGUYEN
PRIMARY PATENT EXAMINER

TC-2800